**SKILL – JOB RECOMMENDER**

**ABSTRACT:**

In the last years, job recommender systems have become popular since they successfully reduce information overload by generating personalized job suggestions. Although in the literature exists a variety of techniques and strategies used as part of job recommender systems, most of them fail to recommending job vacancies that fit properly to the job seekers profiles. Thus, the contributions of this work are threefold, we: i) made publicly available a new dataset formed by a set of job seekers profiles and a set of job vacancies collected from different job search engine sites; ii) put forward the proposal of a framework for job recommendation based on professional skills of job seekers; and iii) carried out an evaluation to quantify empirically the recommendation abilities of two state-of-the-art methods, considering different configurations, within the proposed framework. We thus present a general panorama of job recommendation task aiming to facilitate research and real-world application design regarding this important issue. Keywords: Job matching, job seeking, job search, job recommender systems, person-job fit, LinkedIn, word embedding.

**LITERATURE SURVEY :**

**BACKGROUND OF RECOMMENDER SYSTEMS :**

The recommender system approaches are classified into the following main four categories: Collaborative filtering, Contend-based filtering, Knowledge-based and Hybrid approaches (Wei et al., 2007). The detailed descriptions of different techniques are presented in the following paragraphs.

**COLLABORATIVE FILTERING APPROACH :**

Collaborative filtering (CF) is one of the most successful approaches for building recommender systems. It applies the known preferences of a set of users to predicate the unknown preferences for new users. The fundamental assumption of CF is that if users x and y rate n items similarly, or have similar behaviors. Hence, they willrate other items similarly (Su and Khoshgoftaar, 2009).The ratings can either be explicit that refers to a user expressing his/her preference for an item using the numerical scale such 1–5, or implicit that refers to inferring the user behavior or selection to assign the user preference (Breese et al., 1998). CF approaches have the capability of working in domains where items contents are difficult to obtain or cannot be parsed automatically.However, CF techniques can provide unexpected recommendations, which are not similar to the items in the active user‟s profile, but interest him/her (Hu and Pu, 2011; Linden et al., 2003). Examples of recommender systems that based on CF techniques are presented by (Huang et al., 2007). The CF approaches can be classified into two main types: Memory-based and Model-based methods (Breese et al., 1998; Adomavicius and Tuzhilin, 2005).

**CONTENT-BASED FILTERING APPROACH :**

Content-based filtering (CBF) is treated as information retrieval problem or machine learning problem. In information retrieval problem, the document representations have to be matched to user representations on textual similarity while, in machine learning problem, the textual content of the representations are combined as feature vectors, which are used for training a prediction algorithm (Wei et al., 2007). The CBF recommends items whose content is similar to the content that the user has previously viewed or selected (Mooney and Roy, 2000).CBR has been applied in various domains ranging from recommending web pages, news articles, television programs, restaurants, and items for sale (Pazzani and Billsus, 2007).

**KNOWLEDGE-BASED APPROACH :**

This type of recommender systems attempts to suggest objects based on inferences about user‟s needs and preferences (Burke, 2002). This approach assists users in the determination of suitable solutions from complex product and service assortments. These solutions based on exploiting deep knowledge about the product domain.